AMENDMENTS TO THE CLAIMS

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (Currently Amended) A non-transitory recording medium storing an executable data structure for managing reproduction of at least video data ~~representing~~ having multiple reproduction paths by a reproducing apparatus, comprising:

a data area storing a transport stream of at least video data, the transport stream being divided into transport packets, ~~each~~ the transport packets for one of the multiple reproduction paths being grouped into at least one interleaving unit ~~of a same reproduction path being in a same interleaving unit~~, and the interleaving units of the multiple reproduction paths being interleaved with one another; and

a navigation area storing a first navigation unit, the first navigation unit including one or more second navigation units and controlling a reproduction order of the second navigation units, at least one second navigation unit referencing a plurality of maps, each map identifying transport packets and entry points in the transport packets associated with one of the reproduction paths, and each map providing relation information between presentation time and transport packets of the associated reproduction path, the at least one

second navigation unit including at least one identifier storing the identity of the associated reproduction path, the first navigation unit being separate from each map.

2. (Currently Amended) The non-transitory recording medium of claim 1, wherein the transport packets associated with each reproduction path are grouped into data blocks, and the interleaving units of each reproduction path are interleaved with one another on a data block by data block basis.

3. (Currently Amended) The non-transitory recording medium of claim 2, wherein each data block represents at least an intra-coded picture of video data.

4. (Currently Amended) The non-transitory recording medium of claim 3, wherein each data block represents at least one group of pictures (GOP).

5- 8. (Cancelled)

9. (Currently Amended) The non-transitory recording medium of claim 1, wherein the at least one second navigation unit includes a multiple reproduction path indicator for indicating that the at least one second navigation unit provides navigation information for multiple reproduction paths.

10. (Cancelled)

11. (Currently Amended) A non-transitory recording medium storing an executable data structure for managing reproduction of at least video data ~~representing~~ having multiple reproduction paths by a reproducing apparatus, comprising:

a data area storing a transport stream of at least video data, the transport stream being divided into transport packets, ~~each~~ the transport packets for one of the multiple reproduction paths being grouped into at least one interleaving unit ~~of a same reproduction path being in a same interleaving unit~~, and the interleaving units of the multiple reproduction paths being interleaved with one another; and

a navigation area including a first navigation unit including one or more second navigation units, the second navigation unit providing navigation information for reproducing each of the multiple reproduction paths, the second navigation unit including a multiple reproduction path flag, the value of the multiple reproduction flag indicating that the second navigation unit provides navigation information for multiple reproduction paths, the second navigation unit including at least one identifier storing the identify of one path of the multiple reproduction paths, the second navigation unit referencing a plurality of maps, each map identifying transport packets and entry points in the transport packets associated with one of the reproduction paths, and each map providing relation information between presentation time and transport

packets of the associated reproduction path, the first navigation unit being separate from each map.

12 – 13. (Cancelled)

14. (Currently Amended) The non-transitory recording medium of claim 1, wherein each reproduction path represents one of a digital channel and a sub-channel of an RF channel.

15. (Cancelled)

16. (Currently Amended) A method of recording a data structure for managing reproduction of at least video data ~~representing~~ having multiple reproduction paths, comprising:

recording a transport stream of at least video data on the recording medium, the transport stream being divided into transport packets, ~~each~~ the transport packets for one of the multiple reproduction paths being grouped into at least one interleaving unit ~~of a same reproduction path being in a same interleaving unit~~, and the interleaving units of the multiple reproduction paths being interleaved with one another; and

recording a first navigation unit on the recording medium, the first navigation unit including one or more second navigation units and controlling a reproduction order of the second navigation units, at least one of the second

navigation units referencing a plurality of maps, each map identifying transport packets and entry points in the transport packets associated with one of the reproduction paths, and each map providing relation information between presentation time and transport packets of the associated reproduction path, the at least one second navigation unit including at least one identifier storing the identity of the associated reproduction path, the first navigation unit being separate from each map.

17. (Currently Amended) A method of reproducing a data structure for managing reproduction duration of at least video data ~~representing~~ having multiple reproduction paths, comprising:

reading a first navigation unit from the recording medium, the first navigation unit including one or more second navigation units and controlling a reproduction order of the second navigation units, at least one of the second navigation units referencing a plurality of maps, each map identifying transport packets and entry points in the transport packets associated with one of the reproduction paths, and each map providing relation information between presentation time and transport packets of the associated reproduction path, the at least one second navigation unit including at least one identifier storing the identify of the associated reproduction path, the first navigation unit being separate from each map; and

reproducing a transport stream of at least video data from the recording medium, the transport stream being divided into transport packets, ~~each~~ the

transport packets for one of the multiple reproduction paths being grouped into at least one interleaving unit ~~of a same reproduction path being in a same interleaving unit~~, and the interleaving units of the multiple reproduction paths being interleaved with one another.

18. (Currently Amended) An apparatus for recording a data structure for managing reproduction duration at least video data ~~representing~~ having multiple reproduction paths, comprising:

a pickup configured to record data on the recording medium;

a controller, operably coupled to the pickup, configured to control the pickup to record[[ing]] a transport stream of at least video data on the recording medium, the transport stream being divided into transport packets, ~~each~~ the transport packets for one of the multiple reproduction paths being grouped into at least one interleaving unit ~~of a same reproduction path being in a same interleaving unit~~, and the interleaving units of the multiple reproduction paths being interleaved with one another, and the controller configured to control the pickup to record[[ing]] a first navigation unit on the recording medium, the first navigation unit including one or more second navigation units and controlling a reproduction order of the second navigation units, at least one of the second navigation units referencing a plurality of maps, each map identifying transport packets and entry points in the transport packets associated with one of the reproduction paths, and each map providing relation information between presentation time and transport packets of the associated reproduction path,

the at least one second navigation unit including at least one identifier storing the identity of the associated reproduction path, the first navigation unit being separate from each map.

19. (Currently Amended) An apparatus for reproducing a data structure for managing reproduction duration of at least video data ~~representing~~ having multiple reproduction paths, comprising:

a pickup configured to reproduce data recorded on the recording medium;

a controller, operably coupled to the pickup, configured to control the pickup to reproduce ~~reproducing~~ a first navigation unit ~~on~~ from the recording medium, the first navigation unit including one or more second navigation units and controlling a reproduction order of the second navigation units, at least one of the second navigation units referencing a plurality of maps, each map identifying transport packets and entry points in the transport packets associated with one of the reproduction paths, and each map providing relation information between presentation time and transport packets of the associated reproduction path, the at least one second navigation unit including at least one identifier storing the identity of the associated reproduction path, the first navigation unit being separate from each map, and the controller configured to control the pickup to reproduce ~~reproducing~~ a transport stream of at least video data from the recording medium according to the reproduced the first navigation unit, the transport stream being divided into transport packets,

~~each~~ the transport packets for one of the multiple reproduction paths being grouped into at least one interleaving unit ~~of a same reproduction path being in a same interleaving unit~~, and the interleaving units of the multiple reproduction paths being interleaved with one another.

20. (Previously Presented) The recording medium of claim 1, wherein maps associated with the at least one of the second navigation units are each associated with a different one of the multiple reproduction paths.

21. (Previously Presented) The recording medium of claim 20, wherein a number of the maps associated with the at least one of the second navigation units is equal to a number of the multiple reproduction paths.

22. (Previously Presented) The recording medium of claim 21, wherein the at least one of the second navigation units includes a field for indicating whether the at least one of the second navigation units provides navigation information for multiple reproduction paths.

23. (Currently Amended) A method of creating a data structure for managing reproduction of at least video data ~~representing~~ having multiple reproduction paths, comprising:

generating, with a controller, a transport stream of at least video data, the transport stream being divided into transport packets, ~~each~~ the transport packets for one of the multiple reproduction paths being grouped into at least one interleaving unit ~~of a same reproduction path being in a same interleaving unit~~, and the interleaving units of the multiple reproduction paths being interleaved with one another; and

generating, with the controller, a first navigation unit for managing reproduction of the at least video data, the first navigation unit including one or more second navigation units and controlling a reproduction order of the second navigation units, at least one of the second navigation units referencing a plurality of maps, each map identifying transport packets and entry points in the transport packets associated with one of the reproduction paths, and each map providing relation information between presentation time and transport packets of the associated reproduction path, the at least one second navigation unit including at least one identifier storing the identity of the associated reproduction path, the first navigation unit being separate from each map.

24. (Previously Presented) The recording medium of claim 11, wherein the interleaving units associated with each reproduction path are grouped into data blocks, and the transport packets of each reproduction path are interleaved with one another on a data block by data block basis.

25. (Previously Presented) The recording medium of claim 24, wherein each data block represents at least an intra-coded picture of video data.

26. (Previously Presented) The recording medium of claim 11, wherein each reproduction path represents one of a digital channel and a sub-channel of an RF channel.

27. (Previously Presented) The method of claim 16, wherein the transport packets associated with each reproduction path are grouped into data blocks, and the interleaving units of each reproduction path are interleaved with one another on a data block by data block basis.

28. (Previously Presented) The method of claim 27, wherein each data block represents at least an intra-coded picture of video data.

29. (Previously Presented) The method of claim 16, wherein each reproduction path represents one of a digital channel and a sub-channel of an RF channel.

30. (Previously Presented) The method of claim 17, wherein the transport packets associated with each reproduction path are grouped into data blocks, and the interleaving units of each reproduction path are interleaved with one another on a data block by data block basis.

31. (Previously Presented) The method of claim 30, wherein each data block represents at least an intra-coded picture of video data.

32. (Previously Presented) The method of claim 17, wherein each reproduction path represents one of a digital channel and a sub-channel of an RF channel.

33. (Previously Presented) The apparatus of claim 18, wherein the controller is configured to control the pickup to record the transport packets associated with each reproduction path being grouped into data blocks, and the interleaving units of each reproduction path are interleaved with one another on a data block by data block basis.

34. (Previously Presented) The apparatus of claim 33, wherein each data block represents at least an intra-coded picture of video data.

35. (Previously Presented) The apparatus of claim 18, wherein the controller is configured to control the pickup to record transport packets of each reproduction path representing one of a digital channel and a sub-channel of an RF channel.

36. (Previously Presented) The apparatus of claim 19, wherein the controller is configured to control the pickup to reproduce the transport packets associated with each reproduction path being grouped into data blocks, and the interleaving units of each reproduction path are interleaved with one another on a data block by data block basis.

37. (Previously Presented) The apparatus of claim 36, wherein each data block represents at least an intra-coded picture of video data.

38. (Previously Presented) The apparatus of claim 19, wherein the controller is configured to control the pickup to reproduce transport packets of each reproduction path representing one of a digital channel and a sub-channel of an RF channel.

39. (Cancelled)

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